

# MAGNA

## MBD-20

MIXED BED

**HIGH-CAPACITY MIXED BED  
TYPE II ANION  
POLYSTYRENIC GEL  
H / OH FORM**

ResinTech MBD-20 is a 4:5 volumetric mixture of CG8-H-BL (a dark-colored hydrogen form cation resin) and SBG2-OH (a hydroxide form type 2 strong base anion resin). The volume ratio is close to 1:1 on an equivalent basis and the component anion resin is chosen for its high operating capacity and efficient regeneration. MBD-20 is intended for use in all mixed bed deionization applications that require high throughput capacity and efficient regeneration.

### APPLICATIONS

- Cartridge Applications
- Portable Exchange Deionization (PEDI)

### TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS

<b>Polymer Matrix</b>	Styrenic Gel
<b>Ionic Form</b>	Hydrogen & Hydroxide
<b>Functional Group</b>	Sulfonic Acid / Dimethylethanolamine
<b>Physical Form</b>	Spherical Beads
<b>Particle Size</b>	16 to 50 US Mesh (297 - 1190 µm)
<b>% &lt; 50 mesh (300µm)</b>	< 1%
<b>Reversible Swelling</b>	H/OH to Na/Cl -15% to -17%
<b>Temp Limit</b>	95°F (35°C)
<b>Capacity (meq/mL)</b>	0.6
<b>Moisture Retention</b>	43% to 50%
<b>Shipping Weight</b>	43 - 45 lbs/ft <sup>3</sup> (689 - 721 g/L)
<b>Color</b>	Tan / Brown & Yellow / Brown
<b>Regenerability</b>	Yes

### PACKAGING OPTIONS

- 500 ml samples
- 1 ft<sup>3</sup> bags
- 1 ft<sup>3</sup> boxes
- 1 ft<sup>3</sup> drums
- 7 ft<sup>3</sup> drums
- 42 ft<sup>3</sup> supersacks

Revision 1.1  
ResinTech, Inc.®

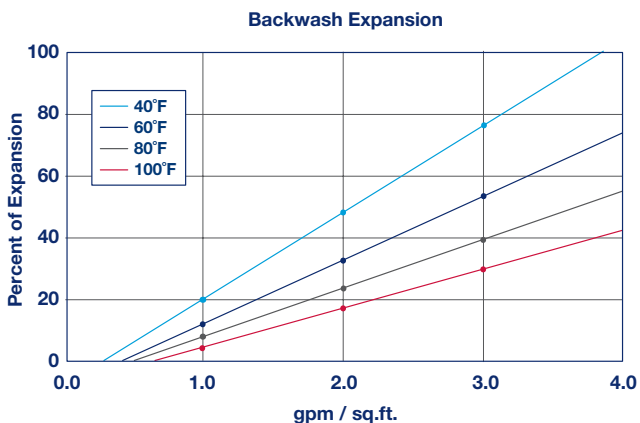
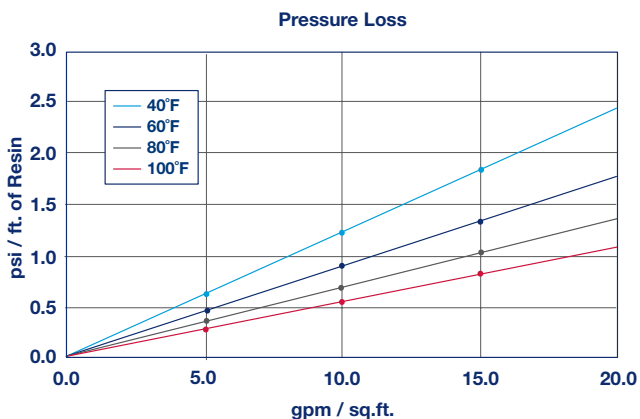


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### PORTABLE EXCHANGE DEIONIZATION (PEDI)

ResinTech MBD-20 can be used in PEDI applications to remove bulk TDS from raw waters or to remove trace levels of TDS following reverse osmosis or other desalination processes. MBD-20 can be separated into its components, CG8-H-BL and SBG2-OH, for regeneration, and reused hundreds or thousands of times. The cation component, CG8-H-BL, is black in color and provides optimized color difference from SBG2-OH. This color difference is very helpful to verify resin separation during backwash.

### THROUGHPUT CAPACITY (Gal/cu. ft.)

TDS (ppm as CaCO <sub>3</sub> ) Conductivity (uS/cm)	No CO <sub>2</sub> or SiO <sub>2</sub>	5 ppm CO <sub>2</sub> or SiO <sub>2</sub>	10 ppm CO <sub>2</sub> or SiO <sub>2</sub>
<b>2/5</b>	130,473	37,278	21,746
<b>5/12.5</b>	52,189	26,095	17,396
<b>10/25</b>	26,095	17,396	13,047
<b>20/50</b>	13,047	10,438	8,698
<b>50/125</b>	5,219	4,744	4,349
<b>100/250</b>	2,609	2,485	2,372
<b>200/500</b>	1,305	1,273	1,243
<b>500/1250</b>	522	517	512
<b>1,000/2500</b>	261	260	258

Mixed Bed throughput capacity is based on the stated inlet conductivity of neutral pH waters and run to a 1 uS/cm endpoint. TDS is based on NaCl (2.5uS/cm/ppm as CaCO<sub>3</sub>). Different salts may have different contributions to TDS. Capacity is based on the anion component and is for virgin resin. Following the initial exhaustion and regeneration subsequent cycles will likely be shorter, depending on how skillfully the resins are separated, regenerated, and remixed.

### CARTRIDGE USE

ResinTech MBD-20 premixed mixed bed is ideal for single use cartridge applications where the longest possible throughput capacity is desired and where the possibility of fishy odors cannot be tolerated. The ratio of anion to cation resin is optimized to provide balanced exchange of both cations and anions as well as to maximize throughput life.

### SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	95°F
Minimum bed depth	24 inches
Backwash expansion	50 to 100 percent
Maximum pressure loss	25 psi
Operating pH range	2 to 12 SU
Service flow rate	1 to 5 gpm per cu. ft.

Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums. For operation outside these guidelines, contact ResinTech Technical Support